Job Specific Environmental Awareness Training – Machine Shop Operations
LS-ENV-SHOP
Rev. 2006-05-01

Course Objective: Significant environmental aspects are associated with Machine Shop Operations. This course has been designed to provide you with the job-specific information that you need know to protect the environment and to meet Laboratory and Government regulations for handling the waste streams produced by this operation. The contents of this training have been extracted from the NSLS PRM and BNL Subject Areas.

Description of Significant Environmental Aspect: Machine shop operations produce several types of waste that need to be controlled: RCRA[1] hazardous waste, industrial waste and recyclable material.

- The RCRA hazardous wastes produced by the shop include chemical wastes such as the contents of ultrasonic cleaners and non-empty aerosol spray cans. The "Lead Working" training and associated operating procedures covers management of lead and lead contaminated waste.
- The term "industrial waste" refers to non-RCRA hazardous waste that is banned from disposal into the regular trash by State and Federal regulations. Waste oil and oily rags are the industrial wastes produced by the shop. If the oil or oily rags become contaminated with other chemical products or lead, they become RCRA hazardous waste and must be managed as such.
- Recyclable material produced by the shop includes scrap solder dross and empty aerosol cans. An "empty" aerosol can is a can that no longer contains any product and is at atmospheric pressure.

Training Requirements: Shop managers are required to read this form and to take RCRA Hazardous Waste Generator training. Shop users are required to read this form.

Operational Controls:

- RCRA hazardous wastes must be containerized, labeled with a red hazardous waste label and kept in a Satellite Accumulation Area (SAA) until the job is complete, or the container is full. Then, the container must be brought to the 90-day Storage Area by the RCRA trained shop manager. A non-radioactive waste form shall be filled out that describes the waste.
  - Aerosol cans shall be discarded into the appropriate collection containers located by the NSLS Stockroom. One container is used to collect empty cans for recycling. The other is used to collect non-empty cans for disposal as hazardous waste.
  - Collect solder dross in a small container labeled "solder dross for recycling".
- Industrial wastes are managed in the same way as hazardous, i.e. waste container must closed and stored in secondary containment. However, this waste must be labeled with a green, non-hazardous waste label and does not need to be stored within a SAA (though it can be).
  - Waste oil shall be collected in the waste oil drum (located near the west roll-up doors).
  - Oily rags that are not contaminated with solvents or other chemicals shall be collected in a fireproof container. The container shall be labeled with a green label. The contents shall be bagged, labeled with a green label and brought to the 90-day Storage Area for disposal.
  - With the exception of waste "Blasocut" from the Crystal Cutting machine shop, all other waste "Blasocut" shall be sent to Central Shops for recycling. Waste "Blasocut" from the Crystal Cutting machine shop must be handled as industrial waste as described. The waste Blasocut container is located by the Crystal Cutting Area.
- Use of degreasing products other than "LPS degreaser", "AC-500" and "Zep-Pride E" must be assessed by the Safety Engineer, the Industrial Hygienist or the Environmental Compliance Representative (ECR) to determine whether they contain chemicals that will cause a waste concern.

Response to Leaks/Spills: Keep absorbent socks around the base of machines with coolant reservoirs that show evidence of leaking. If a spill of oil or other chemical product occurs, take prompt action to prevent it from discharging to floor drains or sinks. You can clean up small spills on your own, if you are familiar with the hazards present and are comfortable doing so. Otherwise, contact the NSLS Control

[1] Federal regulations for hazardous waste are contained in the Resource Conservation and Recovery Act (RCRA).

Room Operator (x2550). Any spill that occurs outdoors, impacts a drain or entails >5 gallons of oil must be reported to the Lab emergency response
number (x2222) and to the NSLS Control Room Operator (x2550).

Your Role and Responsibility: You are responsible for the proper management of your waste and to take prompt action in the event of spills. If you are ever in doubt regarding the proper course of action, contact your supervisor or a member of the NSLS ESH Staff for advice.

Potential Regulatory and Environmental Impacts: Mismanagement of waste can result in violations of RCRA hazardous waste regulations. Discharge of oils and other chemicals to drains can result in violations of BNL release limits. Both can ultimately result in contaminated soil or groundwater. BNL is subject to fines and penalties for such violations, and is responsible for the clean-up costs associated with any required remediation. BNL has also suffered poor public perception due to poor waste management practices and contamination events in the past. Proper management of waste and spills will improve our relationship with regulators and the public.

Pollution Prevention and Waste Minimization: Cooperate with NSLS's recycling efforts by collecting scrap metal, glass and plastic that you produce and deposit it in its respective container for recycling. Please offer any suggestions and comments to your supervision about pollution prevention and waste minimization in order to help the NSLS reduce disposal costs and achieve waste minimization goals.

Signature conveys that you have read and understand this information.

_____	_____	_____	_____
Print Name	Sign Name	Life Number	Date

Send completed forms to the NSLS Training Coordinator, P. O. Box 5000, Bldg. 725D, Upton, NY 11973.

This section to be completed by Instructor: _____ (Initial here and complete below if applicable)	
Was the NSLS Shop User Safety Rules Acknowledgement signed today? (LS-SH-RULES1) Was the NSLS Shop User Video viewed today? (LS-SH-VID2)	☐ Yes ☐ Yes
This information is being requested for data entry purposes only. Please retain the documentation for the Acknowledgement and Video.	

NSLS Environmental Management Training

Background: Environmental and hazardous waste management regulations are among the most sensitive and visible issues in the American society. At BNL, these regulations are indisputably the most sensitive topic within the ESH arena since environmental releases and the perception of poor waste handling practices were at the heart of the AUI discharge by DOE and in the development of the strong management emphasis on these issues. In light of the high visibility and sensitivity to these issues, BNL management committed to the development of an Environmental Management Program that met all the requirements of ISO 14001, an international organization that has adopted standards for many types of programs, including environmental management.

A key issue within ISO 14001 is the identification of all activities at a facility that are associated with significant environmental aspects. All activities involving a significant aspect are to be managed and controlled to ensure that no adverse environmental impact results. As a part of that program, all personnel whose work involves a significant environmental aspect[2] will be provided specific environmental awareness training relating to their duties.

There are several work activities at NSLS that are involved with our facilities' significant environmental aspects.
These activities are:

- Regeneration of process water mixed bed deionizing and Cooling Water System Maintenance
- Machine shop operations
- Photographic dark room operations
- Vacuum pump maintenance
- Electrical/Mechanical Equipment Maintenance
- Experimental Program
- 90 Day/Satellite Area Operation
- Silicon Crystal Etching & Cutting

For each of these activities, job specific training has been developed to ensure knowledge of applicable requirements that should be followed to properly control the significant environmental aspects.

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[2] Significant environmental aspects applicable to the NSLS have been defined at BNL as involving any of the following issues:

- Generation of any amount of industrial, hazardous, radioactive, or mixed wastes
- Air or liquid effluents or emissions exceeding defined values
- Storage or use of chemicals or radioactive material above certain thresholds (includes PCBs)
- Backflow prevention
- Spill Potential
- Any soil activation